Table 2.3.1.2
Habitat Impacts within the BSA – Tight Diamond Alternative

	Permanent Impact						Temporary Impact					
	Canyon		Interchange		Total		Canyon		Interchange		Total	
	ha	(ac)	ha	(ac)	ha	(ac)	ha	(ac)	ha	(ac)	ha	(ac)
Agricultural Lands	5.1	12.5	0.0	0.0	5.1	12.5	9.0	22.2	0.0	0.0	9.0	22.2
Alkali Grassland	0.0	0.0	1.7	4.2	1.7	4.2	0.0	0.0	2.7	6.6	2.7	6.6
Annual Grassland and Ruderal	14.8	36.6	5.8	14.2	20.6	50.8	30.5	75.3	15.8	39.1	46.3	114.4
Coast Live Oak Woodland*	0.6	1.4	0.0	0.0	0.6	1.5	0.6	1.4	0.1	0.1	0.6	1.6
Coast Live Oak - Willow Riparian Forest*	2.7	6.8	0.1	0.3	2.9	7.1	1.6	3.9	0.1	0.3	1.7	4.2
Landscaped Vegetation*	0.5	1.2	0.0	0.0	0.5	1.2	1.0	2.4	0.3	0.6	1.2	3.1
Wetlands	0.5	1.3	1.0	2.5	1.5	3.8	1.4	3.5	0.8	1.9	2.2	5.5
Other Waters	0.2	0.4	0.0	0.1	0.2	0.5	0.4	0.9	0.0	0.1	0.4	1.1
TOTAL	**24.4**	**60.2**	**8.6**	**21.3**	**33.1**	**81.6**	**44.5**	**109.6**	**19.8**	**48.7**	**64.1**	**158.7**

* Woodland permanent impact areas include utility easements and temporary construction easements

Sources: Tables 4-2 and 4-3 of the Natural Environment Study (September 2007)

Quantities above may differ slightly from those in the Natural Environment Study because of rounding.

Table 2.3.1.3

Habitat Impacts within the BSA – Single Point Alternative

	Permanent Impact						Temporary Impact					
	Canyon		Interchange		Total		Canyon		Interchange		Total	
	ha	(ac)	ha	(ac)	ha	(ac)	ha	(ac)	ha	(ac)	ha	(ac)
Agricultural Lands	5.1	12.5	0.0	0.0	5.1	12.5	9.0	22.2	0.0	0.0	9.0	22.2
Alkali Grassland	0.0	0.0	2.0	4.9	2.0	4.9	0.0	0.0	2.4	5.8	2.4	5.8
Annual Grassland and Ruderal	14.9	36.8	6.1	15.0	21.0	51.8	30.4	75.1	15.5	38.3	45.9	113.5
Coast Live Oak Woodland*	0.6	1.4	0.0	0.1	0.6	1.5	0.6	1.4	0.0	0.1	0.6	1.5
Coast Live Oak - Willow Riparian Forest*	2.7	6.8	0.1	0.3	2.9	7.1	1.6	3.9	0.1	0.3	1.7	4.2
Landscaped Vegetation*	0.5	1.2	0.0	0.0	0.5	1.3	1.0	2.4	0.3	0.6	1.2	3.1
Wetlands	0.5	1.3	1.1	2.8	1.7	4.1	1.4	3.5	0.6	1.6	2.1	5.1
Other Waters	0.2	0.4	0.0	0.1	0.2	0.5	0.4	0.9	0.0	0.1	0.4	1.0
TOTAL	**24.5**	**60.4**	**9.3**	**23.2**	**34.0**	**83.7**	**44.4**	**109.4**	**18.9**	**46.8**	**63.3**	**156.4**

* Woodland permanent impact areas include utility easements and temporary construction easements

Sources: Tables 4-2 and 4-3 of the Natural Environment Study (September 2007)

Quantities above may differ slightly from those in the Natural Environment Study because of rounding.

Habitat- The two proposed alternatives are similar in many respects, and the amount of impact potentially occurring to the two natural sensitive types is expected to be the same regardless if the preferred final interchange build alternative is a Tight Diamond or Single Point configuration. The permanent habitat impacts to coast live oak woodland habitat are 0.6 ha (1.5 ac), with impacts to coast live oak – willow riparian habitat totaling 2.9 ha (7.1 ac).

Temporary impacts to coast live oak woodland habitat are expected to be on the order of 0.6 ha (1.6 ac) for the Tight Diamond Alternative, with slightly less impact estimated to coast live oak woodland habitat due to the Single-Point Alternative [0.6 ha (1.5 ac)]. Temporary Impacts to the coast live oak – willow riparian habitat are greater than those expected for the coast live oak woodland habitat, totaling 1.7 ha (4.2 ac) for both project alternatives.

Avoidance, Minimization and/or Mitigation Measures—All feasible and practical measures will be undertaken to avoid or minimize impacts to natural sensitive terrestrial habitat types. These will include:

1. Design modifications that may allow Caltrans to avoid sensitive habitat including coast live oak and coast live oak – willow riparian habitat and reduce the impact below the level of significance.
2. Designating any sensitive habitats observed within the temporary work area as an environmentally sensitive area (ESA), and use of orange construction fencing and placement of signs to prohibit intrusion into the ESAs.
3. Showing the location of all ESAs on project construction drawings and monitoring the ESAs during construction.

Compensatory Mitigation

The loss of sensitive natural habitat, including the loss of individual oak and riparian trees, will be mitigated based on the area of oak woodland and riparian affected. An Oak Woodland and Riparian Habitat Mitigation Plan will be prepared detailing coast live oak woodland and coast live oak, willow riparian habitat restoration activities, which includes details on native oak woodland and riparian tree species planting. These plans have been submitted to the resource agencies for their review before restoration activities are initiated. In addition to planting details such as the species planted and planting densities, the restoration plan will include information on

performance criteria, monitoring, annual reporting, and remedial actions, should monitoring determine that the success criteria have not been achieved.

Caltrans is in the process of identifying an onsite mitigation site to implement permanent impacts to these habitats. Where onsite mitigation is unavailable or infeasible, Caltrans will seek nearby offsite mitigation for the permanent loss of these habitats.

Cumulative Impacts- The geographic scope of the project vicinity for the cumulative impact analysis is defined as an area within 0.4 km (0.25 miles) of the combined footprint of the SRs 29/12 interchange and the SR 12 Jameson Canyon Road Widening project. The table below shows the projects that were considered to analyze cumulative impacts for this project:

TABLE 2.3.1.4

List of Projects Considered for Cumulative Impact Assessment for Biological Study

Projects	Environmental Documents Studied
1. Napa County Airport	Environmental Impact Report (EIR)
2. Montalcina at Napa Golf Course	Draft EIR
3. Suscol Flyover Project	Natural Environmental Study Report (NES)
4. Red Top Truck Climbing Lane Project	Negative Declaration/Finding of No Significant Impacts
5. North Connector Project	Initial Study/Proposed Mitigated Negative Declaration
6. I-80 North Connector project	NES

No significant cumulative impacts are anticipated to coast live oak woodland and coast live oak – willow riparian resources from this project and the projects listed above. Cumulative impacts to coast live oak woodland and coast live oak, willow riparian forest were identified for the projects identified above. The impacts from these projects will be mitigated to a less than significant level. Therefore, the project is not expected to have a significant contribution to any potential cumulative impacts to these sensitive natural habitat types.

2.3.2 WETLANDS AND OTHER WATERS

Regulatory Setting- Wetlands and other waters are protected under several laws and regulations. At the federal level, the Clean Water Act (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters

of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the Clean Water Act, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the Clean Water Act.

Section 404 of the Clean Water Act establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. U. S. Army Corps of Engineers (USACE) manages the Section 404 permit program with oversight by the U. S. Environmental Protection Agency (EPA).

The Executive Order for the Protection of Wetlands (E.O. 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, this executive order states that a federal agency, such as the Federal Highway Administration, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm. At the state level, wetlands and waters are regulated primarily by the Department of Fish and Game (CDFG) and the Regional Water Quality Control Boards (RWQCB). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission) may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the ACOE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFG.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also

issues water quality certifications in compliance with Section 401 of the Clean Water Act. Please see the Water Quality section for additional details.

Affected Environment:

Wetlands- In very general terms, waters of the U. S. are features within which water flows or ponds, such as creeks, rivers, and streams and their tributaries, or oceans, bays, or ponds, and that lack vegetation.

Wetlands and other waters of the U.S. are distributed occasionally throughout 3.9 percent of the project BSA as depressional swales or ditches or in hillside seeps in areas underlain by a restrictive soil layer that results in a seasonally perched water table. Figure 2.3.2.1 show the location of wetlands and waters of the U.S. within the project study area.

Wetland community types present vary considerably along the project study area, and include: riparian, seasonal (ephemeral pool), perennial (marsh), ponds, and ditches and intermittent drainages, many of which function to convey roadside runoff. Some of these features support hydrophytic (wetland) vegetation and are referred to as wetlands. The majority of the seasonal wetlands occur in the vicinity of the SR 29/SR 12 interchange, and towards the eastern section of SR 12. Vegetation associated with seasonal wetlands is variable depending on the duration of inundation. Species generally associated with short duration ponding include Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), curly dock (*Rumex crispus*), Harding grass (*Phalaris aquatica*), bristly ox-tongue (*Picris echioides*), and Italian ryegrass. In areas subject to prolonged inundation, associated species include semaphore grass (*Pleuropogon californicus*), tall cyperus (*Cyperus eragrostis*), broad-leaved cattail (*Typha latifolia*), and hardstem bulrush (*Scirpus actutus*).

Waters of the U. S.- Hydrology in the BSA is dominated by three perennial and intermittent creeks that are mapped on USGS maps: Fagan Creek (Napa County), Sheehy Creek (Napa County), and an unnamed intermittent drainage (informally known as Jameson Creek, Solano County). Creeks and their tributaries located in the Napa County portion of the BSA ultimately discharge into the Napa River whereas creeks and their tributaries situated within the Solano County portion of the BSA drain into Cordelia Slough.

In addition to these larger creeks and their tributaries, numerous constructed drainages are also present along SR 29, SR 12 and the California Northern Railroad tracks, which roughly parallels the south side of SR 12 in the eastern half of the project. Some of these drainages are considered to be waters of the U. S., while others support hydrophytic vegetation and are considered wetlands. Besides the wetlands and waters of the US there are also water bodies known as creeks, other waters, ditches and drains that are present in the project BSA.

Perennial and Intermittent Creeks and Other Waters

Three perennial or intermittent creeks occur in the BSA. These include: Sheehy, Fagan, and an unnamed intermittent drainage (informally known as Jameson Creek). These creeks and tributaries vary in width from approximately 1.5 to 15.2 m (5 to 50 ft). With the exception of Fagan Creek and its tributary, which was primarily unvegetated, most of the creeks and drainages supported emergent wetland vegetation. Plant species include hardstem bulrush, California bulrush (*Scripus californicus*), and broadleaved cattails. Typical over-story vegetation includes trees and shrubs such as arroyo willow, coast live oak, bluegum eucalyptus, and Himalayan blackberry.

Roadway and Railroad Ditches/Drainages

Roadway and railroad ditches and drainages were found to range in width from approximately 0.9 to 3.0 m (3 to 10 ft) and occur predominantly along SR 29 and the California Northern Railroad tracks along the south side of SR 12. These features were constructed to convey storm water runoff from the roadways and railroad tracks and generally discharge into the creeks or their tributaries. Vegetation within these features is variable with some features characterized by small trees and shrubs such as arroyo willow, and Himalayan blackberry, with others characterized by cattails, common spikerush, rabbitsfoot grass, and Harding grass, or were largely unvegetated.

Impacts- A total of 181 wetlands and other waters were identified within the BSA. Sixty-seven of these features are seasonal wetlands and 114 are considered waters of the U. S. The amount of seasonal wetlands or other waters that may not be subject to regulation by the USACE is preliminarily estimated here. The exact amount will not be definitively known until the USACE (San Francisco District) verifies the wetland delineation and makes a determination on the limit of their jurisdiction. It is likely that any USACE non-jurisdictional wetlands and other waters features would be regulated by the RWQCB under the Porter-Cologne Act.

Due to access constraint, the total amount of seasonal wetland and other waters within the BSA is likely to change as more access to study area is available. Most likely, the amount of wetland and other waters present within the BSA would be expected to decrease as the wetland delineation is refined.

A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for this project for Section 404 permit actions; this certification or waiver is issued by the RWQCB. Current assessment of the impact to wetlands may require an Individual Permit from the USACE.

Permanent and temporary impacts to potentially non-jurisdictional features are almost exactly the same for each alternative. Impacts to potentially non-jurisdictional features total 0.47 acre for permanent impacts and 0.28 acre for temporary impacts, for both alternatives. A summary of permanent and temporary impacts to wetlands and other waters by project alternative is contained in Table 2.3.2.1.

Table 2.3.2.1 Impacts to Potential Waters of the U.S. Including Wetlands Within the BSA, by Alternatives

	Tight Diamond Alternative				Single-Point Alternative			
Impact Type (Permanent/ Temporary	Permanent		Temporary		Permanent		Temporary	
	ha	ac	ha	ac	ha	ac	ha	ac
Potentially jurisdictional Wetlands	1.4	3.5	2.2	5.3	1.6	3.8	2.0	5.0
Potentially Jurisdictional Other Waters	0.1	0.3	0.4	0.9	0.1	0.3	0.4	0.9
Subtotal	**1.5**	**3.8**	**2.5**	**6.2**	**1.7**	**4.1**	**2.4**	**5.9**
Potentially Non-jurisdictional Wetlands	0.1	0.3	0.1	0.1	0.1	0.3	0.1	0.1
Potentially Non-jurisdictional Other Waters	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1
Subtotal	**0.2**	**0.5**	**0.1**	**0.3**	**0.2**	**0.5**	**0.1**	**0.3**
TOTAL	**1.7**	**4.2**	**2.6**	**6.5**	**1.9**	**4.6**	**2.5**	**6.1**

Notes:

1. In some cases, access was restricted and wetlands and other waters were mapped using aerial photographic interpretation and limited ground-truthing from the edge of the ROW. Calculations shown here likely represent an over-estimate
2. All calculations are preliminary and are subject to change pending the outcome of the USACE wetland verification
3. Slight differences in calculations do not show due to rounding of significant digits

Caltrans will implement avoidance and minimization measures and compensatory mitigation to ensure no net loss of habitat functions and values. Permanent impacts to potentially jurisdictional wetlands and other waters are very similar for both proposed alternatives, totaling 3.8 acre for the Tight Diamond Alternative compared with 4.1 acre for the Single-Point Alternative. Temporary impacts to potentially jurisdictional features show a similar pattern, with 6.2 acres compared with 5.9 acres for the Tight Diamond and Single-Point Alternatives, respectively. Table 2.3.2.1 shows the impacts of the two different alternatives.

Avoidance, Minimization and/or Mitigation Measures:

All feasible and practical measures will be undertaken to avoid or minimize impacts to seasonal wetlands and other waters during construction. These measures are described below.

1. Wetland assessments will be conducted in parcels for which access was not previously obtained in order to investigate additional parcels, refine the delineation, and reduce the potential amount of impact. Additional wetland delineations will be conducted by Caltrans prior to project construction as part of the USACE jurisdictional determination.
2. To the maximum extent practicable, all construction activities in the temporary work area will avoid wetlands and other waters of the U. S. All wetlands and waters within the temporary work area will be designated as an ESA and protected with appropriate fencing and signage. All ESAs will be shown on the final construction drawings.
3. All work will be performed in accordance with a SWPPP. Also, BMPs to prevent erosion into onsite or offsite waters of the U. S., (including wetlands) will be implemented and may include the use of silt fences, sandbags, detention basins, and other means as appropriate.
4. The topography and grade will be restored to preconstruction conditions in wetland and other waters areas that are temporarily affected. Following all grading and earthwork, these areas will be either be replanted or reseeded with the appropriate plant species, if determined necessary, or monitored following construction, to determine that vegetation comparable to the pre-existing condition has naturally regenerated.
5. Unavoidable wetland and other waters losses estimated to occur once additional wetland investigations are performed or that occur during construction will be tallied and incorporated into project permits and compensatory mitigation documents and requirements as appropriate. Compensatory mitigation is described below.

In cases where impacts to wetlands and other waters are unavoidable, Caltrans will mitigate impacts to a less than significant level through wetland preservation and/or creation at an approved ratio as determined during the permitting process by the USACE and the RWQCB.

Compensatory mitigation will consist of the following elements:

1. To minimize the potential for on-site or offsite erosion into other wetland features, measures will be implemented to minimize impacts on-site roadside ditch wetland or other waters prior to project completion and will be completed prior to the beginning of the wet season (typically October 31st).
2. Standard erosion control measures (BMP) and the preparation of a SWPPP will be required of the contractor and implemented during construction to ensure that sedimentation into adjacent wetlands and other waters does not occur and indirectly impact adjacent resources. Monitoring of erosion control measures will be conducted during construction and remedied if found insufficient.
3. Creation of wetland habitat as compensation for permanent impacts will be required. This may be accomplished through habitat creation, at either an on- or off-site location, or through restoration, preservation, or a combination of these two approaches.
4. Creation of wetland and other waters habitat will be accomplished through steps outlined in a Conceptual Wetland Restoration Plan that will be prepared and submitted in support of obtaining the project permits, agreements, waivers, or approvals from the USACE, CDFG, and RWQCB.
5. The mitigation ratio for the creation of wetland resources will range from between 1:1 to 3:1 (mitigation to impact) on an acreage basis, either on-site or off-site. The exact mitigation ratio (acreage basis) will be dependent on the type and habitat quality of the wetlands and other waters impacted, the quantity and location of impacted wetlands resources, the location of the proposed creation, and the outcome of agency discussions.
6. The Conceptual Wetland and Other Waters Creation Plan will follow guidelines established by the USACE. A discussion of the annual reporting requirement, a monitoring plan, and remedial measures, should monitoring determine that success criteria are not being achieved. The Caltrans District 4 Office of Biological Sciences and Permits will plan and implement the on-site mitigation, in conjunction with the Caltrans District 4 Office of Landscape Architecture.
7. Compensatory mitigation could also be accomplished by purchasing mitigation credits at a wetland mitigation bank that services Solano and Napa Counties. Currently, there is a USFWS approved active mitigation bank that services Solano and Napa Counties—the Elsie Gridley Multi-Species Conservation Bank. However, other banks nearby the project vicinity are pending or proposed and it is possible a suitable bank would be active at the time the mitigation credits are

required. Additional mitigation opportunities may be available with the Solano Land Trust south of the project in Lynch Canyon.

With the implementation of the above measures, impacts to wetlands and other waters will be reduced to a less than significant level.

Cumulative Impacts

The geographic scope of the project vicinity for the cumulative impact analysis is defined as an area within 0.4 km (0.25 mile) of the combined footprint of the SRs 29/12 interchange and the SR 12 Jameson Canyon Road widening project. Projects included in this cumulative impact analysis include the same projects discussed in the Natural Community section, section 2.3.1. Projects included in this cumulative impact analysis include the projects shown in Table 2.3.1.4.

Impacts to wetlands and other waters occurring as a result of these proposed project will also be less than significant after mitigation is implemented. No significant cumulative impacts are anticipated to occur to wetland resources from the SRs 29/12 intersection improvement in combination with the projects listed above. Therefore, the project is not expected to have a significant contribution to any potential cumulative impacts to wetland resources and the incremental effect is not expected to be cumulatively considerable.

2.3.3 Plant Species

Regulatory Setting- The U. S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) share regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section 2.3.4 in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFG fully protected species and species of special concern, USFWS

candidate species, and non-listed California Native Plant Society (CNPS) rare and endangered plants.
The regulatory requirements for FESA can be found at United States Code 16 (USC), Section 1531, et. seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et. seq. Department projects are also subject to the Native Plant Protection Act, found at Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act, Public Resources Code, Sections 2100-21177.

Vegetation Community- Eight vegetation community types that occur within the project study area are discussed in section 2.3.1.

Trees

Affected Environment- A total of 1,225 trees were mapped within the project footprint during the 2006 and earlier Caltrans surveys. Native oak woodland and riparian tree species are considered sensitive because they are related species of the coast live oak woodland and coast live oak and willow riparian habitat types. Within the project BSA there are various types of Oaks and also ornamental tree species occur. They comprise the landscaped vegetation type, and these landscaping trees are not considered sensitive from a vegetation standpoint.

Impact- A total of 1,225 trees (comprised of twenty-three tree species) were mapped and/or tabulated within the proposed project permanent impact area and temporary work area. The majority of the trees are native, 74 to 87 percent, depending on their location within either the permanent impact area or the temporary work area.

Table 2.3.3.1 below show the implementation of the project will result in the permanent loss of up to 547 trees if the Tight Diamond Alternative is constructed, or 528 trees with the Single-Point Alternative.

An unknown number of trees within the temporary work area will also be damaged or removed during construction, for each alternative. The number of trees affected within the temporary work area is unknown at this time and will be tallied during construction and the number added to the total mitigation required for the project.

The following avoidance and minimization efforts will be implemented to reduce impacts to native oak and riparian trees to the maximum degree possible.

Table 2.3.3.1 Percentage of Native Trees, Non-Native Trees, and Trees That are Native to Limited Natural Stands But Are Used As a Landscaping Tree

Native or Non-native Tree Species	Number of Trees	Percentage of Trees (547 total)	Number of Trees	Percentage of Trees (690 total)
	Permanent Impact Area (Combined Catchline)*		Temporary Work Area (Combined Catchline)*	
Native tree species	476	87%	510	74%
Native to limited natural stands but used as a landscaping tree	46	8%	129	19%
Non-native tree species	25	5%	50	7%
Total	**547**	**100%**	**690**	**100%**

Notes:

* The combined catchline is the outer extent of the two proposed alternatives that represents the maximum extent of permanent impact

Avoidance, Minimization and/or Mitigation Measures—The minimization efforts for the tree impacts are listed below.

1. Design of the proposed project will be modified to avoid native oak and riparian tree species and reduce the impact below the level of significance.
2. Any individual native oak woodland or riparian trees greater than 4 inches diameter at breast height observed within the temporary work area will be designated as an ESA and protected with orange construction ESA fencing and signage if practicable.
3. The location of all ESAs will be shown on project construction drawings and monitored during construction.

Permanent impacts to native oak woodland and riparian trees will be addressed on an acreage basis as part of the oak woodland and riparian habitat mitigation effort rather than replacing individual trees on a stem basis.

Impacts to landscaping vegetation (defined as non-native trees, and native trees used as landscaping species), will be mitigated by replanting landscaping tree species onsite following construction. A separate landscaping plan will be prepared for the installation of landscaping species within the project BSA. Alternatively, the loss of landscaping tree species could be mitigated by adding the total number of landscaping

trees to be affected to the total number of trees to be planted in the oak woodland and riparian habitat mitigation areas, and an appropriate native species substitute selected.

Cumulative Impacts- The geographic scope of the project vicinity for the cumulative impact analysis is defined as an area within 0.4 km (0.25 mile) of the combined footprint of the SRs 29/12 interchange and the SR 12 Jameson Canyon Road. The cumulative impact analysis projects include the same set of projects discussed in cumulative projects in section 2.3.1. Projects included in this cumulative impact analysis include the projects shown in Table 2.3.1.4.

Impacts to native trees were identified as part of these projects. These projects will mitigate impacts to native trees to a less than significant level. No significant cumulative impacts are anticipated to native trees from the SRs 29/12 project and the projects listed above. The project is therefore not expected to have a significant contribution to any potential cumulative impacts to native trees.

Special-status habitats, communities and Plant Species

Affected Environment- The natural vegetation types occur within the BSA and are considered sensitive: coast live oak woodland, coast live oak, willow riparian forest, and wetlands. Alkali grassland is a natural community type but is considered part of the seasonal wetland habitat, which is described separately. Waters of the U. S. are also considered sensitive but these habitats are typically not vegetated and are discussed separately in Section 2.3.1. Section 2.3.3 discusses the physical characteristics of the natural community types in these sections. Habitat mapping results for the terrestrial natural habitat types (coast live oak woodland and coast live oak - willow riparian forest) are also described in Section 2.3.1.

The remaining habitats present within the BSA (e.g., annual grassland) are not natural community types and are not considered sensitive; therefore, they are not discussed further in this section.

The project BSA was surveyed for special-status plant species in 2006 and 2007. No special-status plant species were found within the project BSA in areas that were surveyed. Results of the habitat assessment determined that the probability of special-status plant occurrence within the BSA was low based on the observed BSA conditions that is degree of disturbance, presence of localized rock substrate and edaphic conditions, and prevalence of non-native species.

However, two special-status plants, the streamside daisy (*Erigeron bioletti),* a CNPS List 3 plant, and long-petaled iris (*Iris longipetala*), a CNPS List 4 species, were identified adjacent to the BSA outside of and approximately fifty feet from the very northeastern edge of the BSA.

Impacts- Access limitations prevent conclusive determination of the extent of potential project-related impacts to special-status plant species. Parcels with suitable target species habitat that were directly surveyed but were not surveyed at the appropriate time of year to determine if potentially occurring special-status plants are present will be surveyed prior to construction. The pre-construction surveys will follow survey protocols and the surveys will be conducted by a Caltrans qualified botanist.

Based on the habitats identified in the project BSA, and the degree of site disturbance observed, the likelihood of special-status plant species occurrence (except for streamside daisy and long-petaled iris) is low. However, if special-status plants are encountered during the pre-construction surveys, the potential impacts to special-status plants will be identified and quantified, and appropriate mitigation will be developed and implemented. All feasible and practical measures will be undertaken to avoid or minimize impacts to special-status plant species, should any be identified during the pre-construction surveys. These measures are described further below.

Avoidance, Minimization and/or Mitigation Measures—The significance of the potential impact, should any special-status plants occur, is dependant on the species affected, the characteristics of species distribution and abundance both regionally and locally, and the number of individuals and quantity of habitat affected.

If special-status plant species are identified during preconstruction surveys, feasible and practical measures will be undertaken to avoid or minimize impacts to the population(s). These will include:

1. Design modifications that may allow Caltrans to avoid the species and reduce the impact below the level of significance.
2. Designation of any special status plant populations observed within the permanent impact area or temporary work area as an ESA, and delimiting the ESA with orange construction fencing and signage.
3. Showing the location of all ESAs on project construction drawings and monitoring them during construction.

Compensatory Mitigation- Based on habitats identified in the BSA, the likelihood of special-status species occurrence (except for streamside daisy or long-petaled iris) is low. However, if special-status species are encountered during the preconstruction surveys, the appropriate compensatory mitigation will be developed and implemented in coordination with the appropriate resource agencies. If the project cannot be redesigned to completely avoid or minimize the impact to the species, significant impacts to the plant population will be mitigated through:

1. Development and implementation of a Rare Plant Relocation Plan, which would describe relocation to an agency-approved suitable location.
2. Preservation of an existing population of the species at a ratio of at least 1:1 (a ratio of species habitat impacted to species habitat preserved) or higher, as determined appropriate based on the quality of the habitat and species impacted and the quality of the preserved habitat.
3. Coordination and consultation with USFWS and CDFG for a determination of the likelihood of adverse effects and development of appropriate mitigation.
4. Restoration of areas of temporary disturbance to the pre-existing grade and reseeding with a site-specific mix of native vegetation if determined appropriate; or salvaging the topsoil within the plant population, storing it, and reinstallation of the topsoil following construction.

Through implementation of these measures, impacts to special status plants, should any be identified during preconstruction surveys, will be reduced to a less than significant level.

Cumulative Impacts- It is expected that the overall likelihood of special status plant occurrence within the BSA is low for the two rare plant species, the long-petal iris and the streamside daisy.

No impacts to rare plants were identified as part of the projects listed in Table 2.3.1.4, except for the North Connector project, which will not result in significant impacts to the long-petal iris and the streamside daisy, the two species observed directly adjacent to, but outside of, the proposed project BSA. The Napa County Airport Specific Plan and EIR did not specifically include protocol level surveys for rare plants, but describes that suitable rare plant habitat is present, and states that surveys prior to project implementation would be conducted and mitigation provided. Potential impacts to rare plant resources could occur within the Napa County Airport Specific

Plan Area; however, these impacts will be mitigated. No other significant impacts to rare plants are predicted to occur as part of the remaining projects, listed above.

2.3.4. Animal Species

Regulatory Setting- Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NOAA Fisheries) and the California Department of Fish and Game (CDFG) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with special status wildlife that is not listed or proposed for listing under the state or federal Endangered Species Act. All other special status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1601 – 1603 of the Fish and Game Code
- Section 4150 and 4152 of the Fish and Game Code

In addition to state and federal laws regulating impacts to wildlife, there are often local regulations (example: county or city) that need to be considered when developing projects. If work is being done on federal land (BLM or Forest Service, for example), then those agencies' regulations, policies, and Habitat Conservation Plans are followed.

The primary wildlife habitats within the project study area are described in this section. The wildlife habitats correspond to the vegetation types discussed in Section 2.3.1 in Natural Communities and its habitats. The threatened and Endangered Species are discussed in Section 2.3.5. The special status species are discussed in this section.

Three sensitive community types, five habitats of concern (i.e., natural community types with an extent limited to within California) and critical habitat for eleven federally endangered species, fifty-one sensitive plant species, and seventy-one sensitive animal species were recorded from within the twelve United States Geological Survey (USGS) quads surrounding the project. A compilation of those habitats and species obtained from CNDDB, CNPS, and USFWS database queries for occurrences within the Cordelia and Cuttings Wharf USGS quadrangles as well as the ten surrounding USGS quadrangles, and include information pertaining to each species' habitat requirements and the likelihood that those habitats are present within the project BSA.

Regional Special-status Species and Habitats of Concern

***Foothill Yellow-legged frog* (FYLF; *Rana boylii*)**

Affected Environment- The foothill yellow-legged frog (FYLF; *Rana boylii*) is a State Species of Concern (SSC) that occurs throughout the Coast Ranges from the Oregon border, south to the Transverse Range in Los Angeles County, in most of northern California west of the Cascade crest. Based on habitats identified in our project BSA, the likelihood of FYLF occurrence is low; all parcels could not be accessed, however, and their presence cannot be completely ruled out. Potential impacts include loss of individuals during construction in general and use od heavy equipment movement can cause temporary loss of foraging and potential breeding habitat.

Avoidance, Minimization, and/or Mitigation Measures—Because suitable habitat for FYLF occurs within currently inaccessible parcels, qualified biologists will conduct pre-construction surveys for FYLF in or near the suitable creek and riparian habitat. Any FYLF that are encountered during project activities will be relocated. Relocation of state species of concern associated with this project will require a letter of authorization from CDFG. Because of the overlap in habitat requirements, the avoidance and minimization measures that will be implemented for CRLF (discussed in Section 2.3.5) are expected to minimize the potential impacts to FYLF habitat.

Compensatory Mitigation- With implementation of the above avoidance and minimization measures, and with compensatory mitigation for the project's impacts to waters and wetlands and CRLF habitat, no further compensatory measures will be required.

Cumulative Impacts

The geographic scope of the project vicinity for the cumulative impact analysis is defined as an area within 0.25 mile of the footprint of the SRs 29/12 interchange and SR 12 Jameson Canyon Road widening project.

Impacts to FYLF will be reduced to a less than significant level after mitigation is implemented. Therefore, no significant cumulative impacts are anticipated to FYLF resources from the proposed project.

Northwestern and Southwestern Pond Turtle (Clemmys marmorata)

Intergrades of two closely related subspecies of western pond turtles with special status may occur within the project BSA, the northwestern [*Clemmys (Actinemys, Emys) marmorata marmorata*] and southwestern [*Clemmys (Actinemys, Emys) marmorata pallida*] pond turtle. They are both SSC and impacts and mitigation would be the same for either species.

Western pond turtles range from uncommon to common in suitable aquatic habitat throughout California. The northwestern subspecies includes those that are located in the Sacramento Valley and San Francisco Bay area north to Puget Sound. Western pond turtles require some slack- or slow-water aquatic habitat, and are uncommon in high-gradient streams.

Impacts- Access limitations prevent conclusive determination of the extent of potential project-related impacts to western pond turtles. Pre-construction surveys will be conducted by a qualified biologist familiar with the local fauna to determine if the project will impact western pond turtles. The proposed action could have permanent and temporary direct effects to the western pond turtle, if present. Large equipment and earth moving activities can crush or bury turtles. This mortality could potentially include the destruction of occupied nests. Other individuals may be affected through loss of habitat, possible disruption of foraging, and harassment from increased human activity during construction.

Avoidance, Minimization, and/or Mitigation Measures—Caltrans biology staff or other qualified biologist will conduct pre-construction surveys for western pond turtles prior to the start of any construction activities for the proposed project. Relocation of State Species of Concern associated with this project will require a letter of authorization from CDFG. Because of the similarity in habitat requirements,

the avoidance, minimization measures, and compensatory mitigation measures that will be implemented to protect CRLF breeding are expected also to minimize the potential to impact western pond turtle habitat.

Compensatory Mitigation -With implementation of the avoidance and minimization measures discussed in Section 2.3.5 for CRLF, and with compensatory mitigation for the project's impacts to waters and wetlands and CRLF habitat, no further compensatory measures will be required for this species.

Cumulative Impacts- The projects of Table 2.3.1.4 will incorporate similar avoidance, minimization, and compensation to mitigate impacts to western pond turtles. By incorporating these and similar mitigation measures, significant cumulative impacts to western pond turtles are not anticipated.

Of the projects reviewed in the project vicinity, only the IS/PMND for the North Connector project identified an impact to pond turtles. Mitigation Measure in the IS/PMND for the North Connector project provides that unavoidable potentially occupied upland burrowing habitat within 304.8 m (1000 ft) of a pond at the west end of the study area will be preserved.

The North Connector project will incorporate similar avoidance, minimization, habitat creation and/or habitat preservation measures to mitigate their impacts to western pond turtles. By incorporating these and similar mitigation measures, significant cumulative impacts to western pond turtles are not anticipated.

Mitigation for impacts to western pond turtles habitat will be implemented too if found, thereby reducing western pond turtle impacts to a less than significant level after mitigation is implemented. Therefore, no significant cumulative impacts are anticipated.

Special-Status and Protected Birds

Eleven species of birds with special status are present or presumed to be present within the project area. Ten of these are SSC, and one is State-listed as threatened (ST; Swainson's hawk). Swainson's hawk was not observed during surveys within the project BSA; however, a Section 2081 incidental take permit will be required if this species will be affected by project-related activities.

Three special-status or fully protected bird species have been observed or are expected to be present within the project BSA:

Golden eagle is a SSC that is fully protected by CDFG and is also protected under the federal Bald and Golden Eagle Protection Act (BGEPA);

White-tailed kite is a fully protected bird. CDFG does not issue take permits for fully protected species, and there are no provisions in the California Fish and Game Code for mitigating effects to fully protected species.

L*oggerhead shrike* is a SSC. CDFG does not issue take permits for fully protected species, and there are no provisions in the California Fish and Game Code for mitigating effects to fully protected species.

In addition to the state or federal listing status, most birds that occur within the project BSA are protected under the Migratory Bird Treaty Act (MBTA) and CDFG codes. Besides these listed species two additional species nests and a rookery were found during surveys that are protected by the MBTA.

Cliff swallow (*Petrochelidon pyrrhonota*) and *Black phoebe* nests were observed inside culverts during surveys and a Great *blue heron* (*Ardea herodius*) rookery is known to occur in the vicinity of the project footprint.

Impacts- Nest removal activities will affect bird nesting habitat and would constitute a potential impact to the nesting habitat; however, because nesting habitat in the BSA is only a small percentage of what exists in the local area, this impact is expected to be a less than significant impact. Therefore, significant impacts to nesting birds are not anticipated.

Great blue heron rookery abandonment would likely increase with increased visits by humans and with road building activity within 0.5 km (0.3 mi). Some colonies may splinter and attempt to settle nearby following abandonment. Response to disturbance can vary between sites and time of breeding season. Early in the season, herons flush easily from nests with the slightest disturbance; after eggs, they fly reluctantly and return quickly to nests; few flush when chicks are in the nest.

Removal of trees, shrubs, and other vegetation may result in direct impacts to these species due to the loss of possible nests and any associated eggs and/or nestlings. Noise and construction activities within the BSA may preclude or disrupt nesting in

these areas throughout the duration of the construction period. Indirect impacts may result from the loss of nesting habitat; however, these impacts will be mitigated through the avoidance and minimization measures and compensatory mitigation discussed below.

Avoidance, Minimization, and/or Mitigation Measures—This project will adhere to the MBTA, which recommends that unavoidable nesting habitat for Cooper's hawk, loggerhead shrike, and other protected bird species are removed in the non-nesting season between *September 1 and February 15*.

For migratory birds other than eagles and endangered or threatened species, a permit is not required to dislodge or destroy migratory bird nests that are not occupied by juveniles or eggs. However, any such destruction that results in take of any migratory bird is a violation of the MBTA (e.g., where juveniles still depend on the nest for survival). Because additional prohibitions of the BGEPA apply to eagle nests, no one may destroy or dislodge any eagle nest without a permit. The FESA (16 U.S.C. 1531-1544) prohibits destruction of nests of threatened and endangered migratory bird species.

In this way, impacts to birds protected by the MBTA will be minimized, but not avoided. If a golden eagle nest is found and avoidance is not possible, or if any Threatened or Endangered species nest is found, Caltrans will stop work and consult with USFWS before proceeding. Caltrans biology staff will conduct pre-construction nesting surveys to identify and remove nearby bird nests or to prevent nesting, as necessary. Caltrans will take additional reasonable measures to avoid and minimize unnecessary disruptions to the normal behavior patterns of protected bird species that include, but are not limited to, breeding, feeding, and sheltering.

To the extent practicable, shrub and tree trimming and/or removal activities associated with the project will be conducted from October through February 15, outside the nesting season (generally between February 15 and August 31).

If shrub and tree removal is scheduled to occur during the nesting season, a qualified wildlife biologist, familiar with the species and habitats in the BSA, will be retained to conduct preconstruction surveys for nesting birds within suitable nesting habitat in the BSA. The nesting bird surveys should be conducted within one week before

initiation of construction activities within those habitats. If no active nests are detected during surveys, construction may proceed.

If construction activities begin prior to the breeding season, construction can proceed until it is determined that an active migratory bird nest is subject to abandonment because of construction activities.

If construction activities are scheduled to occur during the breeding season, and if surveys indicate that migratory bird nests would be directly impacted by construction activities, a no-disturbance buffer will be established around the nest to avoid disturbance or destruction of the nest until after the breeding season or after a wildlife biologist determines that the young have fledged (usually late-June to August). The extent of these buffers will be determined by a wildlife biologist and will depend on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers.

Culverts will be inspected by a qualified biologist prior to the nesting season and any inactive nests will be dislodged or destroyed. After clearing the culverts of bird nests, bird exclusion netting will be installed to prevent birds (especially cliff swallows) from building new nests inside the culverts.

Because great blue herons habituate to non-threatening repeated activities, most studies recommend a minimum 300 m (984 ft) buffer zone from the periphery of colonies in which no human activity should take place during courtship and nesting seasons (February through August). This buffer will be maintained and the biological monitor, familiar with the species, will observe the rookery for disturbance. Construction activities will be halted if the rookery is likely to abandon nesting and the appropriate mitigation will be implemented. By implementing the general avoidance and minimization measures and the specific great blue heron rookery measure above, impacts to the great blue heron rookery will be avoided or minimized and is not expected to be a significant impact.

If active nests are identified on or immediately adjacent to the BSA, all non-essential construction activities (e.g., equipment storage, meetings) should be avoided in the immediate vicinity of the nest site; however, construction activities can proceed if the biological monitor has verified that the individual is not likely to abandon the nest

during construction. Construction disturbance will be temporary, and implementation of the avoidance and minimization measures described above will further minimize any effects on migratory birds. Indirect impacts may result from the loss of nesting habitat; however, replanting of vegetation will minimize impacts on potential nesting habitat (trees) within the BSA.

Compensatory Mitigation - Any bird nests that are identified during pre-construction nesting surveys will be removed in the non-nesting season to minimize impacts to nesting bird species to an insignificant level. If nests are found during the breeding season, implementation of the avoidance and minimization measures described above will minimize impacts. Through implementation of these measures, impacts to nesting birds, should any be identified during preconstruction surveys, will be reduced to below the level of significance and no further mitigation will be required.

Cumulative Impacts- The Table 2.3.1.4 projects have been evaluated for the cumulative impact assessment for the birds for the proposed project.

The Draft Subsequent EIR for the Montalcino at Napa Golf Course indicates the potential for nesting and non-nesting special status birds within that project site. Bird surveys conducted for that project reported the occurrence of merlin (SSC), white tailed kite (fully protected), and a possible vocalization of salt marsh common yellowthroat (SSC). Raptor and colonial nest removal would be mitigated to a less than significant level through the implementation of pre-construction nest surveys, and that if any nests were determined present, those trees would not be removed until the end of the nesting season.

These projects will incorporate similar avoidance, minimization, habitat creation and/or habitat preservation measures to mitigate their impacts to special status birds. By incorporating these and similar mitigation measures, significant cumulative impacts to special status birds are not anticipated.

Special-Status Animal Species: Bats

Two special-status species of bats are presumed present within the project BSA. The pallid bat (*Antrozous pallidus*) and Pacific western big-eared bat [*Corynorhinus* (=*Plecotus*) *townsendii townsendii*] are both SSC.

Pallid Bat (Antrozous pallidus)

The pallid bat is a locally common species and occurs in lower elevations throughout California. This nocturnal mammal feeds on a wide variety of insects and arachnids, including beetles, grasshoppers, crickets, Jerusalem crickets (*Stenopelmatus fuscus*) moths, spiders, and scorpions. Their mating season ranges from late October to February, with young born from April to July. This species is very sensitive to disturbance of roosting sites, as these sites are essential for metabolic economy, juvenile growth, and as night roosts to consume prey. Pallid bat inhabits rocky, outcrop areas where they commonly roost in rock crevices, caves, and mine tunnels but they also roost in the attics of houses, under the eaves of barns, behind signs, in hollow trees.

Pacific western big-eared bat [Corynorhinus(=Pecotus) townsendii townendsii]

The Pacific western big-eared bat is found throughout California. Most abundant in mesic habitats, this species is found in all but sub-alpine and alpine habitats, and may be observed during any season throughout its range. This species was once considered common in California, but is now considered uncommon throughout the state. This species feeds primarily on small moths, but beetles and a variety of soft-bodied insects also are consumed. Their mating season ranges from November to February, with young born in May and June. This species is extremely sensitive to disturbance of roosting sites, as a single visit may result in abandonment of the roost.

Impacts- Activities near culverts, trees, rock outcrops, structures, and other potential roosting habitat create a potential for disturbance to special-status bats, as would any avoidance and minimization measures to remove or restrict roosts, or to relocate any special-status bat. Implementation of the avoidance and minimization measures discussed below are expected to reduce, but not eliminate, project-related impacts to these species.

Avoidance, Minimization and/or Mitigation Measures—Because suitable habitat for special-status bat species may occur within currently inaccessible parcels, Caltrans biology staff will conduct pre-construction surveys to determine if roosts occur within the project footprint. Pre-construction surveys shall be conducted no more than fourteen days prior to tree removal and project construction to avoid loss of individuals or active roost sites, and may include removing or restricting access to potential special-status bat roost sites. If roost sites are determined to be present within the project area and avoidance is not possible, a bat specialist will be consulted

to identify appropriate protection measures, which may include non-disturbance buffers to protect roost sites, exclusion from roost sites, or removal of unoccupied roost sites, thereby minimizing impacts to these species. Roost removal or relocation of a state species of concern associated with this project will require a letter of authorization from the CDFG Region 3 Office. Caltrans will take additional reasonable measures to avoid and minimize unnecessary disruptions to the normal behavior patterns of special-status bats, which include, but are not limited to, breeding, feeding, and sheltering.

Compensatory Mitigation - Any bat roost that is identified during pre-construction surveys will be restricted or removed, and any special-status bat that is encountered during project related activities would be relocated to minimize impacts to special-status bat species. If any roost sites are removed or restricted, or if special-status bat species are relocated or otherwise affected by project activities, the appropriate compensatory mitigation will be developed and implemented, and would include the construction and placement of bat boxes or other suitable roost structures.

Cumulative Impacts- The Table 2.3.1.4 projects, as discussed below, will incorporate similar avoidance, minimization, and compensation to mitigate impacts to special status bat species. By incorporating these and similar mitigation measures, significant cumulative impacts to special status bat species are not anticipated.

The DSEIR for the Montalcino at Napa Golf Course states that a bat habitat assessment was conducted for the Devlin Road Extension project area, and while some potential roost habitat was observed, no roosting bats or bat signs were documented. A significant impact to special-status bats may occur from removal of snags and structures, and Mitigation Measure 5.2-18 in that document provides that snags and structures will not be removed during the maternity season (June-August); however, if removal must be conducted during this period then pre-construction surveys will be conducted to determine the presence or absence of these species. If pre-construction surveys determine presence, then a qualified biologist will remove bats using standard non-invasive exclusion methods. Implementation of this measure would reduce impacts to a less than significant level.

The IS/PMND for the North Connector project states, "Suitable roosting habitat for (pallid) bat occurs on cliffs in the West End of the study area north of SR12, although these cliffs would not be impacted by the proposed project. In general, trees in the

area of impact do not provide suitable roosting or nesting cavities. Regardless, preconstruction surveys would be conducted before trees or potential roost structures are impacted or removed within the study area."

The IS/PMND determines that impacts to occupied roost trees or structures would be considered potentially adverse. Mitigation measures include preconstruction surveys before trees or potential roost structures are impacted or removed and tree removal and structure demolition work one month of the survey. If a maternity colony is observed, no eviction/exclusion should be allowed during the maternity season, and if a non-reproductive group of bats are found within a building or roost tree, they should be evicted and excluded from the roost site prior to work activities. Implementation of these measures is expected to mitigate impacts to a less than significant level.

2.3.5. Threatened and Endangered Species

Regulatory Setting- The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA): 16 United States Code (USC), Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion—Incidental Take Statement. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The California Department of Fish and Game (CDFG) is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined

to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a Biological Opinion under Section 7 of the FESA, CDFG may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

The discussions of the endangered species for the proposed project are discussed below.

Federally-listed plant species

Affected Environment- *Contra Costa goldfields* is federally listed, spring annual herb that blooms from March to June. This species has not been identified within the project BSA; however, suitable habitat does occur on parcels where access was not granted to conduct surveys. This plant is endangered. The nearest known CNDDB record of the Contra Costa goldfields is from Suscol Ridge, about four miles south of Napa, approximately 0.80 km (0.5 mi) north of the northwest end of the BSA.

Showy Indian clover is another annual plant that blooms from April to June found in Solano County, west and north to Marin and Sonoma Counties. Showy Indian clover is very rare and the micro-habitat requirements for this species are not well known. Potentially suitable habitat for showy Indian clover (low, wet swales, grasslands, and grassy hillsides) does occur within the BSA in areas that have not yet been surveyed for rare plants. However, the species is extremely endangered, and it is very unlikely to occur. Therefore, it is inferred to be absent in areas of unsurveyed suitable habitat within the BSA.

Both of the federally listed species are not expected to occur within the BSA based on field surveys and habitat assessments conducted to date. A preconstruction survey will be followed by Caltrans staff.

Impacts- As described earlier, access limitations prevent conclusive determination of the extent of potential project-related impacts to federally-listed plant species. However, the surveys that were done in the area where Caltrans staff had access, indicated that it is very highly unlikely that these species would occur in the proposed project BSA.

Avoidance, Minimization, and/or Mitigation Measures—If a pre-construction survey finds these species in the project BSA, the following measures will be taken by Caltrans.

1. Making minor design modifications to avoid impacts to the species;
2. Designating any federally-listed plants and/or populations observed within the temporary work area as an ESA with orange construction fencing and placement of signage to avoid the ESA;
3. Showing the location of all ESAs on project construction drawings and monitoring them during construction.
4. Implementing reasonable and prudent measures to minimize and avoid take of listed species for permanent impacts to suitable habitat or individual plants.

Cumulative Impacts- Should rare plants be observed during future surveys within the proposed project and result in significant rare plant impacts, mitigation will be implemented. Impacts, should any be identified, will be less than significant after mitigation is implemented. Therefore, no significant cumulative impacts are anticipated to rare plant resources from the SRs 29/12 interchange and the projects listed above. Therefore, the project is not expected to have a significant contribution to any potential cumulative impacts to federally listed plants. Projects included in this cumulative impact analysis include the projects shown in 2.3.1.4.

Conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpool shrimp: federally-listed large branchiopods
(Branchinecta conservatio, Branchinecta lynchii, and Lepidurus packardi)

Affected Environment- The Conservancy fairy shrimp (*Branchinecta conservatio*) and vernal pool tadpole shrimp (*Lepidurus packardi*) are federally endangered (FE) species, and the vernal pool fairy shrimp (*Branchinecta lynchii*) is a federally threatened (FT) species that are protected under the federal Endangered Species Act (FESA). A dry season survey of potential large branchiopod habitat was completed in November 2006 and a wet season survey was completed in June of 2007.

A total of 140 basins occurring in the BSA were evaluated for their potential to support federally-listed large branchiopods during preliminary site surveys. Eighty of these basins occur to which access was granted, twenty-six basins were determined not to provide habitat to federally-listed large branchiopods, forty-one basins were considered potential large branchiopod habitat and were dry-season sampled, and thirteen basins were determined to provide possible habitat for federally-listed large

branchiopods. Thirty-seven of the forty-one sampled potential habitat basins and three of the thirteen possible or unknown habitat basins occur near the SRs 29/12 interchange. These areas have been evaluated and sampled as appropriate in the dry season 2007 and in the wet season 2006-2007.

Impacts- Protocol level surveys to accessible parcels were completed in July 2007. No federally-listed branchiopods were identified. The federally-listed large branchiopod species occurrence is inferred in inaccessible and unsurveyed potential habitat basins. Depending on whether the Tight Diamond or the Single Point alternative is chosen, between 12.09-12.14 acres of permanent impacts to inaccessible and unsurveyed potential habitat basins will occur.

Avoidance, Minimization and/or Mitigation Measures—Standard minimization efforts to be implemented would include elements of the following to avoid and minimize project-related impacts:

1. Design modifications that may allow Caltrans to avoid the species and reduce the impact below the level of significance.
2. To the maximum extent practicable, avoidance of all construction activities in the temporary work area with federally-listed large branchiopod habitat. Any identified federally listed large branchiopod habitat within the temporary work area will be designated as an ESA and protected with appropriate fencing and signage. All ESAs will be shown on the final construction drawings.
3. Performance of all work in accordance with a Storm Water Pollution Prevention Plan (SWPPP). Best Management Practices (BMPs) will be implemented and may include the use of silt fences, sandbags, detention basins, and other means as appropriate to prevent erosion into any identified federally-listed large branchiopod habitat.
4. Restoration of the topography and grade to preconstruction conditions in vernal pool areas that are temporarily affected. Following all grading and earthwork, these areas will be either be replanted or reseeded with the appropriate plant species, if determined necessary, or monitored following construction, to determine that vegetation comparable to the pre-existing condition has naturally regenerated.
5. Tallying of unavoidable vernal pool losses during construction and incorporating into project permits and compensatory mitigation documents and requirements as appropriate. Compensatory mitigation is described below.

Since project-related impacts are currently undetermined, no compensatory mitigation for impacts to federally-listed large branchiopod has been identified. However, access has been obtained to only sixty-nine of 125 total parcels within the BSA, and surveys will therefore not exclude the potential for federally-listed large branchiopods to occur within unsurveyed potential habitat. If federally-listed large branchiopods are determined to be impacted by the project, then appropriate compensatory mitigation will be developed and implemented in coordination with the appropriate resource agencies.

We will avoid and minimize effects to vernal pools to the extent possible.

Cumulative Impacts- No impacts to federally-listed large branchiopods were identified as part of the above projects. The Napa County Airport Specific Plan and EIR did not specifically include protocol level surveys for federally-listed large branchiopods, however that document states:

"Vernal pools could be destroyed by development in the grassland area. Any rare or endangered species present in the pools would also be eliminated (sic) surveys for vernal pools and rare or endangered plants associated with vernal pools should be done in spring and early summer; apparently no surveys have been done in the project area. The potential for adverse effects on rare or endangered species cannot be predicted, but suitable habitat for these species is present. The loss of vernal pools would be an adverse impact regardless of the presence or absence of rare of endangered plants."

Potential impacts to federally-listed large branchiopods therefore could occur within the Napa County Airport Specific Plan Area; however, these impacts will be mitigated. No other significant impacts to federally-listed large branchiopods are predicted to occur as part of the remaining projects, listed above.

California Red-legged Frog (CRLF)

Affected Environment- The CRLF is a federally threatened species with protection under the FESA by USFWS. This species is a pond-dwelling amphibian that generally lives near permanent aquatic habitats including livestock ponds and pools in perennial streams. The optimal habitat is characterized by dense, shrubby riparian vegetation associated with deep, still, or slow-moving water. The shrubby riparian vegetation that structurally seems to be most suitable for this frog is that provided by

arroyo willow, although cattails (*Typha* spp.) and bulrushes (*Scirpus* spp.) also can provide suitable habitat. Although CRLFs are found in ephemeral streams and ponds, populations cannot be maintained where all surface water disappears.

There are two occurrences of CRLF documented within 1.6 km (1 mi) of the project BSA. These are recorded in the CNDDB at both locations are north of SR 12 and documented within the last three years. Occurrence was in a drainage containing small plunge pools and surrounded by grassland. Another occurrence is located in a pond/freshwater marsh dominated by cattails. Beyond 1.6 km (1 mi) from the project BSA, the CNDDB denotes nine additional occurrences within an 8 km (5 mi) radius of the project BSA. Each of these additional occurrences is located more than 3.2 km (2 mi) south of the study area and, all but one , are separated from the project BSA by I-80. SR 29 separates these occurrences from potential CRLF habitat west of SR 29 in the project BSA, which includes the high-quality habitat in the western reach of Sheehy Creek.

All of the seven perennial creeks identified within the project BSA were surveyed; however, Fagan Creek south of SR 12 was not visible from the roadway and could not be accessed. For comparison purposes, biologists surveyed a reach of Fagan Creek just downstream and west of the reach within the BSA. Results of this survey allowed Caltrans biologists to approximate current conditions of Fagan Creek within the BSA. Numerous ephemeral drainages occur in the project BSA that dry up before August in most years, and therefore do not provide suitable breeding habitat for CRLF.

The BSA contains unsuitable upland habitats, suitable upland or movement corridor habitat, suitable aquatic dispersal habitat, and suitable aquatic breeding habitat for CRLF. The suitable upland habitat in the BSA consists of mixed grasslands and oak woodlands within 1.6 km (one mile) of potential breeding habitat which is present in the project BSA. Although direct observations were not possible throughout the project BSA, indirect observations from adjacent accessible parcels and aerial photo interpretation were used to determine the location and extent of suitable CRLF habitat within inaccessible portions of the BSA. CRLF presence is inferred in locations that could not be accessed but where suitable habitat was determined to occur based on indirect observations.

Impacts- There is potential for project activities to disrupt movement or cause entrapment, harassment, and mortality to CRLF. The implementation of measures described below will minimize the potential for impacts to CRLF. However, the proximity of the project to known CRLF occurrences and the presence of suitable habitat throughout the project area will require formal Section 7 consultation with USFWS. A Biological Assessment (BA) is scheduled for submission to the USFWS in July 2007 that will initiate formal consultation for CRLF.

Avoidance, Minimization and/or Mitigation Measures—On April 1, 2003, a field meeting with USFWS Coast Bay-Delta Branch Chief Dan Buford determined that project activities east of the SRs 29/12 interchange would not affect the CRLF if seasonal restraints, avoidance of seasonal wetlands, and other avoidance measures were in place during project activities.

To avoid and minimize impacts to CRLF the following measures will be used:

1. Work in ephemeral drainages and seasonal wetlands will be restricted until the summer and/or early autumn months (June 15 through October 15).
2. ESA fencing will be installed and storm water BMPs implemented to avoid project-related impacts to CRLF habitat.
3. Caltrans biology staff will conduct pre-construction surveys for CRLF prior to the start of any construction activities in or near suitable habitat.
4. If CRLF are observed during pre-construction surveys, construction activities will be stopped and the CRLF will be relocated by a permitted biologist.
5. Creek and riparian impact avoidance and minimization measures, and on-site restoration of temporarily disturbed areas, as described in Section 2.3.2, will further minimize impacts to the CRLF.

Compensatory Mitigation- Compensatory mitigation for temporary impacts to combined aquatic habitat are proposed at 1.1:1. At this ratio, offsite mitigation at 0.1:1 would require 0.26 ha (0.65 ac), for the Tight Diamond Alternative and 0.25 ha (0.61 ac) for the Single-Point Alternative. An additional 2.64 ha (6.51 ac) or 2.49 ha (6.15 ac) will be restored onsite at the ratio of 1:1 for temporary impacts to CRLF combined aquatic habitat.Temporary disturbance to CRLF upland dispersal habitat will be mitigated through restoration of on-site habitats as described in Section 2.3.3.

To mitigate the potential permanent impacts of the proposed project to CRLF, Caltrans would purchase a combined total habitat of at least 59.64 ha (147.38 ac).

This compensation would include:
1. Purchase of mitigation credits at an existing bank or banks, or
2.Purchase and preservation of a parcel with suitable habitat submitted to the USFWS for approval, or
3.A combination of these two approaches.

Caltrans has considered purchasing and conserving land as compensatory mitigation that may support CRLF. Additional mitigation opportunities may be available with the Solano Land Trust south of the project in Lynch Canyon, or through established or future mitigation banks.

Cumulative Impacts- While no CRLF have been documented within the project BSA, reported occurrences within 1.6 km (1 mi) of the project BSA and the presence of suitable aquatic breeding habitat and aquatic and upland movement/aestivation habitat within the BSA suggest the likelihood of CRLF within the BSA. Moreover, surveys did not include all potential habitat since not all areas could be accessed; therefore impacts to CRLF cannot be ruled out.

The geographic scope of the project vicinity for the cumulative impact analysis is defined as an area within 0.4 km (0.25 mile) of the footprint of the SRs 29/12 interchange and the SR 12 Jameson Canyon Road widening project.

These projects will incorporate similar avoidance, minimization, habitat creation and/or habitat preservation measures to mitigate their impacts to CRLF. Incorporating these measures and similar mitigation measures, significant cumulative impacts to CRLF are not anticipated.
The Draft Subsequent EIR for the Montalcino at Napa Golf Course states that protocol-level CRLF surveys were conducted but that no CRLF were encountered. The presence of breeding CRLF was determined unlikely given the shallow and seasonal nature of the aquatic habitat.

The Red Top Road Truck Climbing Lane project NES states that ephemeral drainages in the area of that project may assist in the dispersal of CRLF and that a seasonal pond determined to be potential habitat may be affected by one of the design options; however, due to the implementation of seasonal work restrictions minimal impacts to CRLF will occur.

The I-80 North Connector project IS/PMND with EA reports that biologists observed CRLF in a drainage feature on the West End of the project area on multiple occasions and that CRLF are assumed to be present throughout the West End of the project area. Construction of the project could result in impacts to CRLF and/or its habitat and that these impacts would be considered an adverse effect. Approximately 0.24 ha (0.59-acre) of seasonal wetlands and seeps at the West End of the project area will be affected by the proposed project; however, these impacts will be mitigated by the creation of a 0.6 ha (1.5 acre) pond and the dedication of 4.4 ha (10.8) acres of mitigation land within an open space preserve, thereby reducing the impacts to a less than significant level.

Mitigation for impacts to CRLF habitat will be implemented as discussed above which will reduce CRLF impacts to a less than significant level after mitigation. Therefore, no significant cumulative impacts are anticipated to CRLF resources from the SR 12 Jameson Canyon widening and SRs 29/12 interchange project and the projects discussed for cumulative impact assessment.

2.3.6. Invasive species

Regulatory Setting: On February 3, 1999, President Clinton signed Executive Order 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." Federal Highway Administration guidance issued August 10, 1999 directs the use of the state's noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

Invasive Plant Species

Affected Environment- Invasive plant species within the BSA are defined as species of plants included on lists prepared by the California Department of Food and Agriculture (CDFA), and invasive plants identified by the California Invasive Plant Council (Cal-IPC). Cal-IPC focuses on plant species that impact natural areas, sometimes called "wildland weeds" (Cal-IPC, 2007). The state laws implemented by the CDFA are found in the CDFA Code, which defines a 'noxious weed' to be any species of plant that is, or is liable to be, troublesome, aggressive, intrusive,

detrimental, or destructive to agriculture, silviculture, or important native species, and difficult to control or eradicate, which the director, by regulation, designates to be a noxious weed.

Information on invasive plant species is tracked by these agencies because invasive plants can significantly degrade wildlife habitat. According to the Cal-IPC, nationally, invasive species are the second-greatest threat to endangered species, after habitat destruction (Cal-IPC, 2007). The project BSA contains numerous plant species considered to be invasive species of varying severity. A list of all CDFA and Cal-IPC ranked invasive plant species.

Numerous invasive plant species occur scattered throughout the project BSA. The grassland and ruderal habitats that are adjacent to the active roadway support the highest number of invasive plants. Invasive Plant were observed during 2006 Rare Plant Surveys of the BSA. Sixty-two invasive species observed within the project BSA during the 2006 rare plant surveys and their corresponding Cal-IPC and CDFA ranks. Five of these invasive species are ranked a 1 or "high" by the Cal-IPC, in terms of overall threat. However, these species are all extremely widespread throughout significant portions of California and are not unique to the project region.

Impacts- Most of the habitats within the project BSA have been already directly or indirectly disturbed over the long-term by roadway construction and traffic as well as agricultural practices and development in the project region. A total of sixty-two invasive plant species were identified during the 2006 rare plant surveys. Because invasive species are already so widespread, the chance that construction of the proposed project could result in the introduction of new invasive plants or spread existing invasive species into portions of the BSA in which invasive species do not already occur is small. However, it is possible that construction could cause the spread of invasive species already occurring, or the introduction of new invasive species. This could be considered a significant impact, depending on species-specific characteristics of the particular invasive species introduced or spread. For example, if an "A" ranked – CDFA species were introduced, this would be of serious concern and would require the immediate attention and action of the CDFA. Therefore, measures to avoid and minimize the potential for the introduction of new invasive plants or the spread of existing plants will be implemented during construction. These measures are described below.

Avoidance, Minimization and/or Mitigation Measures—Caltrans will implement the following protection measures:

- Prior to project construction, Caltrans will conduct surveys within the project area for invasive species of highest concern and the preconstruction weed surveys will be mapped.
- Caltrans will not allow disposal of soil and plant materials from any areas that support CDFA List A or Cal-IPC List 1 invasive species into natural habitats such as coast live oak woodland, coast live oak-willow riparian forest, or within or directly adjacent to wetlands or other waters.
- Erosion control species will be certified "weed free" to reduce the chances of introducing a new invasive species to the project BSA, or spreading an existing invasive species into unoccupied areas. Additionally, only non-invasive native and/or non-native species will be used for erosion control or landscaping.

If CDFA List A plants are identified during future surveys, or another invasive habitat threat is identified (e.g., such as the sudden oak death fungal pathogen), all construction equipment shall be pressure washed or steam cleaned prior to initial entry to the project limits. Additionally, other measures as required by CDFA or other agencies may be required to prevent the spread of pathogens or invasive plants.

Cumulative Impacts- Should an invasive plant be observed during future surveys within the BSA, mitigation measures as described above will be implemented. With implementation of mitigation measures, impacts to natural habitats due to invasive weeds, should any be identified, will be less than significant after mitigation is implemented. No significant cumulative impacts are anticipated due to invasive weed species from the SRs 29/12 project and the projects included in the scope of the cumulative impacts analysis. Therefore, the project is not expected to have a significant contribution to any potential cumulative impacts to invasive species.

2.4 Construction Impacts

Affected Environment- During the SR 12 widening, it is anticipated that there will be two main construction stages. Phase 1 will be the construction of two lanes and shoulders for the EB direction and retaining walls. Phase 2 will be the correction of horizontal and vertical curves, widening to standards, and overlaying of the existing highway. On SR 12, two lanes, one lane for both WB and EB, will be maintained throughout construction. For Phase 3, the SR 29/12 interchange segment, SR 29

would be maintained as a four-lane highway. A temporary detour for SR 12 will be built between Kelly Road and Airport Boulevard in order to elevate SR 12 over SR 29 and construct it at its proposed alignment.

Impacts- During the construction associated with the proposed project, emergency response vehicles and utilities may be affected by lane closures, unforeseen delays, or construction activities.

Utility relocations have been identified within the project footprint and will be relocated as necessary to construct either of the build alternatives. All utility relocations will be within the environmental footprint of the proposed project. The potential impacts due to relocation of utilities have already been taken into account in the environmental studies.

Construction staging and storage will occur within the project footprint and have been studied as part of the environmental process. Unsightly material and equipment storage shall not be visible within the foreground of the highway, or visually screened where required. In addition, all areas disturbed by construction, staging and storage shall be revegetated immediately following completion construction.

Avoidance, Minimization, and/or Mitigation Measures—A Transportation Management Plan (TMP) will be required for this project. The TMP is a special program that is implemented during construction to minimize and prevent delay and inconvenience to emergency response vehicles and the traveling public. The proposed construction and improvements can include temporary roadwork, which require lane closures or detouring.

The TMP for this project will be developed and refined during the final design phases, supported by detailed traffic studies to evaluate traffic operations. The need for necessary lane closures during off-peak hours or at night, or short–term detour routes, will be identified as required. The TMP typically will include press releases to notify and inform motorists, businesses, community groups, local entities, and elected officials of upcoming closures or detours. Various TMP elements, such as portable Changeable Message Signs and California Highway Patrol Construction Zone Enhanced Enforcement Program may be utilized to alleviate and minimize delay to the traveling public. The TMP will also serve to notify all emergency service providers in the project corridor of the project construction schedule, lane closures,

and detours. Utilities located within the project corridor will be identified before construction and relocated, if required.

2.5 Climate Change (CEQA)

Regulatory Setting: While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas[1] (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. AB 1493 requires the Air Resources Board (ARB) to develop and implement regulations to reduce automobile and light truck GHG emissions; these regulations will apply to automobiles and light trucks beginning with the 2009 model year.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80% below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that ARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change.

Affected Environment: "According to a recent white paper by the Association of Environmental Professionals[2], "an individual project does not generate enough greenhouse gas emissions to significantly influence global climate change. Global

[1] Greenhouse gases related to human activity include: Carbon dioxide, Methane, Nitrous oxide, Tetrafluoromethane, Hexafluoroethane, Sulfur hexafluoride, HFC-23, HFC-134a*, and HFC-152a*.

[2] Hendrix, Micheal and Wilson, Cori. *Recommendations by the Association of Environmental Professionals (AEP) on How to Analyze Greenhouse Gas Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), p. 2.

climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of greenhouse gases.

The Department and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California's GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation, the Department has created and is implementing the Climate Action Program at Caltrans (December 2006).

One of the main strategies in the Department's Climate Action Program to reduce GHG emissions is to make California's transportation system more efficient. The highest levels of carbon dioxide from mobile sources, such as automobiles, occur at stop-and-go speeds (0-25 miles per hour) and speeds over 55 mph. Relieving congestion by enhancing operations and improving travel times in high congestion travel corridors will lead to an overall reduction in GHG emissions. "

The proposed project's purpose is to relieve congestion and improve traffic operations. Section 2.1.6 of this Initial Study/Environmental Assessment showed that under the No Build scenario, traffic operations on SR 12 in the year 2035 will be Level of Service (LOS) "F" or "E" in all segments during the AM and PM peak hours. The traffic operations for the SRs 29/12 intersection in the year 2035 will also be LOS "F." Under either of the Build alternatives, the traffic operations for SR 12 and the SRs 29/12 interchange will be LOS "C" or "D."

The Department recognizes the concern that carbon dioxide emissions raise for climate change. However, modeling and gauging the impacts associated with an increase in GHG emissions levels, including carbon dioxide, at the project level is not currently possible. No federal, state or regional regulatory agency has provided methodology or criteria for GHG emission and climate change impact analysis. Therefore, the Department is unable to provide a scientific or regulatory based conclusion regarding whether the project's contribution to climate change is cumulatively considerable.

The Department continues to be actively involved on the Governor's Climate Action Team as ARB works to implement AB 1493 and AB 32. As part of the Climate Action Program at Caltrans (December 2006), the Department is supporting efforts to

reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. The Department is working closely with local jurisdictions on planning activities; however, the Department does not have local land use planning authority. The Department is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks. However it is important to note that the control of the fuel economy standards is held by the United States Environmental Protection Agency and ARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the University of California Davis.

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